

LISTING OF CLAIMS

This listing of claims replaces all prior versions and listings of claims in the patent application.

Claims 1-13. (canceled)

Claim 14. (currently amended): A method for synchronizing subscriber stations in a radio communication system, the method comprising the steps of:

allocating a time slot for transmitting at least one synchronization sequence to a number of synchronized base stations;

allocating to adjacent base stations a different time offset with respect to a beginning of the time slot for transmitting the at least one synchronization sequence within a respective time slot, wherein the time offset corresponds to ~~at least one of a~~ choice of at least one synchronization sequence and /or a sequence of a number of synchronization sequences;

receiving, at a subscriber station, the synchronization sequence; and

performing, via the subscriber station, a time synchronization via both a time of reception of the synchronization sequence and at least one of ~~the a~~ detected synchronization sequence designating the time offset and /or the detected sequence of the number of synchronization sequences.

Claim 15. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, further comprising the step of: transmitting two synchronization sequences in one time slot.

Claim 16. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 15, further comprising the step of:

predetermining a time gap between the two synchronization sequences in the one time slot.

Claim 17. (currently amended): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, the method further comprising the step of:

transmitting further information by the base station by ~~a~~the choice of at least one of the synchronization sequences and the sequence of a number of synchronization sequences.

Claim 18. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the further information relates to at least one of a frame synchronization, midambles, and spread-spectrum codes used by the base station.

Claim 19. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the further information relates to information on the configuration of a control channel.

Claim 20. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 19, wherein the information on configuration relates to at least one of a variable number of time slots and spread spectrum codes.

Claim 21. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the coding of the further information extends over a number of time slots due to at least one of the choice of synchronization sequences and the sequence of synchronization sequences.

Claim 22. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are unmodulated orthogonal gold codes.

Claim 23. (currently amended): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the time slots are a part of a ~~TDD~~ time-division duplex transmission arrangement with broadband channels, a number of time slots per frame being used for the synchronization.

Claim 24. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are transmitted in time slots in which information of a control channel is additionally transmitted.

Claim 25. (previously presented): A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are transmitted at lower power compared with other transmissions of the base station.

Claim 26. (currently amended): A radio communication system, comprising:

a plurality of synchronized base stations for transmitting at least one synchronization sequence;

a controller which assigns a time slot and a different time offset with respect to a beginning of the time slot for transmitting the synchronization sequence to adjacent base stations, the time offset corresponding to ~~at least one of~~ a choice of at least one synchronization sequence and/or a sequence of a number of synchronization sequences;

a subscriber station for receiving and evaluating the synchronization sequence; and

a synchronization part allocated to the subscriber station which performs a time synchronization via a time of reception of the synchronization sequence and at least one of a detected synchronization sequence designating the time offset and a detected sequence of a number of synchronization sequences.